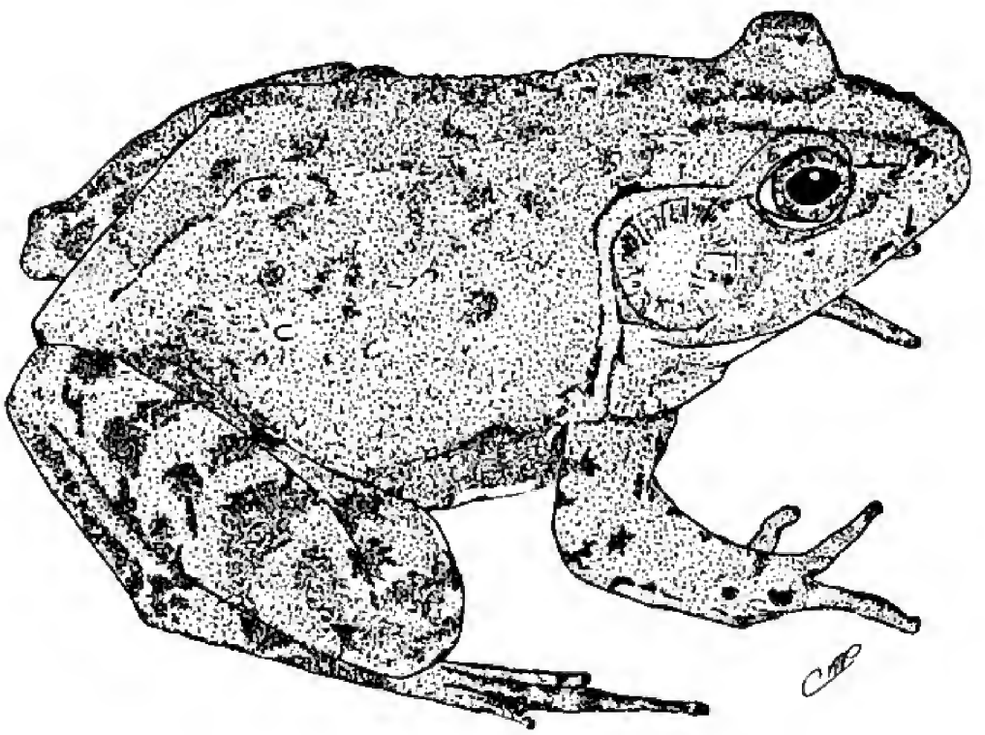
CATESBEIANA



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BULLETIN INFORMATION

Catesbeiana is published twice a year by the Virginia Herpetological Society. Membership is open to all individuals interested in the study of amphibians and reptiles and includes a subscription to Catesbeiana, two newsletters, and admission to all meetings. Annual dues for regular membership are $15.00. Payments received after September 1 of any given year will apply to membership for the following calendar year. See the Web Site (http://fwie.fw.vt.edu/VHS/) for a membership application/renewal form.

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The principal function of *Catesbeiana* is to publish observations and original research about Virginia herpetology. Rarely will articles be reprinted in Catesbeiana after they have been published elsewhere. All correspondence relative to the suitability of manuscripts or other editorial matters should be directed to Dr. Paul Sattler, Editor, *Catesbeiana*, Department of Biology, Liberty University, 1971 University Blvd., Lynchburg, VA 24502 (email: pwsattle@liberty.edu).

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Manuscripts for consideration of publication in Catesbeiana should be doublespaced and submitted to the Editor electronically. Consullt the style of articles in this issue for additional information, including the appropriate format for literature citations. The metric system should be used for reporting all types of measurement data. email attachments in Word format is desired for all papers. Submissions concerning the herpetofauna of selected areas, such as a park, city or county, should be prepared in article rather than field note format. Articles will be refereed by the editor and one or more qualified reviewers. All changes must be approved by the author before publication; therefore, manuscripts must be received by the editor before March 1 and September 1 to be considered for publication in the spring and fall issue, respectively, of *Catesbeiana*. Reprints of articles are not available, but authors may reprint their own articles to meet professional needs.

(Editorial policy continued on inside back cover)

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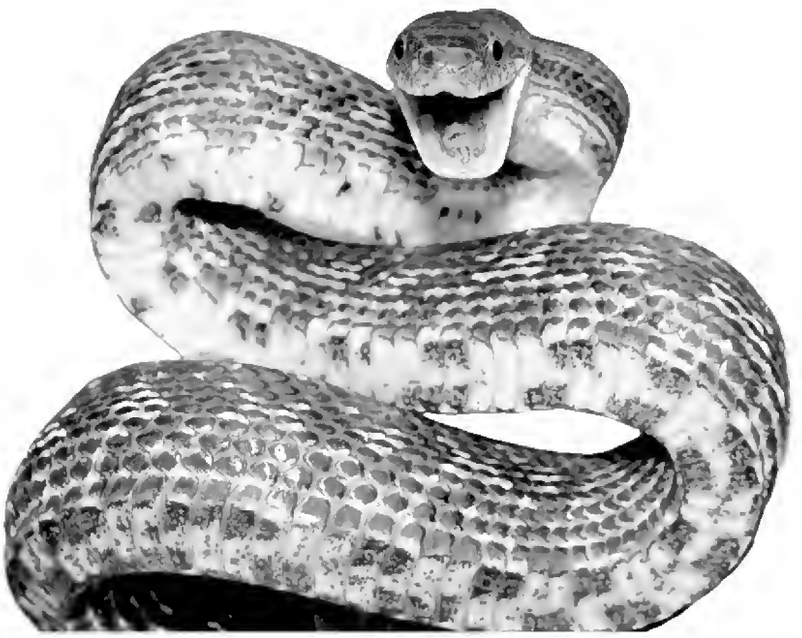

Occoneechee State Park Survey

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Introduction

The Virginia Herpetological Society (VHS) annually selects sites within the Commonwealth and surveys those locations for herpetofaunal species. The VHS typically selects sites that are within localities lacking official records of native and naturalized reptiles and amphibians, or localities lacking recent records of native and naturalized herpetofauna. Through these surveys, theVHS is able to obtain distributional, behavioral, morphological, and physiological data. Relative abundance of species may also be assessed during these surveys.

From 1 May through 3 May, 2009, VHS held its Annual Survey and Meeting at the Virginia Department of Conservation and Recreation's (VDCR) Occoneechee State Park, in Mecklenburg County. This property contains mixed upland forests, riparian areas along the John H. Kerr Reservoir (also known as Buggs Island Lake), wooded wetlands and beaverponds, and open areas. Occoneechee State Park (OSP) was surveyed in 1982 (Pague and Larson, 1982), but since that data is about to become historic, and this data comprises most of the herpetofaunal records for Mecklenburg County, the VHS decided this would be a good place for a herpetofaunal survey in 2009.

OSP is 1,092 ha (2,698 ac) in size and the property provides a unique

mix of upland forest habitats and riparian habitats bordered by the reservoir, as well as an historically interesting property. The Occoneechi Indians lived on an island in the vicinity of the current park location until 1676. The Occoneechi were decimated to only a few members as a result of Bacon's Rebellion, and they were forced to move south to an area that is now Hillsboro, North Carolina. In 1839, William Townes built Occoneechee Plantation, and this 1,255 ha (3,100 acre) plantation was located on much of the current park property plus Occoneechee Island. In 1947, The U.S. Army Corps of Engineers began building John H. Kerr Dam, which was completed in 1953, forming John H. Kerr Reservoir (or more commonly known as Buggs Island Lake). In 1968, Virginia began leasing the land for recreational use, which became Occoneechee State Park (dcr.virginia.gov/state_parks/, July 2010).

Study Sites

Site 1: Beaver Pond Trail (North Side of trail) (36°37'14.32"N, 78°30'27.93"W)
The Beaver Pond Trail is a 2.75 km gravel path which leads through a mixed hardwood and pine forest. The north side of the trail has active beaver ponds, several small streams and a few woodland vernal pools. Dominant tree species include Oak, Tulip Popular, Hickory, American Holley, Beech, Sweetgum, and Virginia Pine. The understory is open and contains mostly blueberry bushes.

Site 2: Beaver Pond Trail (South Side of trail) (36°37'13.38"N, 78°30'26.31"W)
The south side of Beaver Pond Trail appears to be a fire controlled portion of the park. The forest is still a mixed hardwood and pine forest but with much evidence of recent burns. Main species include oaks, maples, sweet gum, tulip popular with very few species of herbaceous plants with the exception of ferns. This site has many tree root cavities, mounds from blown over trees, and many downed decaying trees. One stream with water and four dry stream beds completes the features seen at this site.

Site 3: Tutelo Birding Trail (36°37'51.65"N, 78°31'28.04"W)
Tutelo Birding Trail is a 1.75 km well-maintained hiking trial which winds through a mixed hardwood and pine forest. There is very little understory with the exception of blueberry bushes. There is much evidence for burning; there are many fallen logs and burned vegetation. A gas line right of way passed through a portion of this trail (unrelated to the fire evidence). This trail crosses two small intermittent streams. Many piles of rocks can be seen while following this trail and represent likely historical agricultural land use practices.

Site 4: Warriors Path Trail and south side of Mossey Creek Nature Trail (36°37'46.84"N, 78°31'54.07"W)
Warriors Path Nature Trail is a 0.65 km trail extending off the Mossey Creek Nature Trail. Mossey Creek Nature Trail is a 1.1 km trail winding through a mature mixed oak pine forest. Dominant plant species include oak, hickory, beech, sweetgum, Virginia pines, with an open understory of blueberry and greenbrier. The trail parallels a stream with many small stagnant pools of water but no flowing water. The trailhead begins in a small logged clear cut.

Site 5: North side of Mossey Creek Nature Trail (36°37'54.04"N, 78°31'48.77"W)
See site 4 description.

Site 6: Visitor Center Peninsula (36°37'28.54"N, 78°31'36.99"W)
The Visitor Center Peninsula contains a small visitor center, park office, two picnic shelters, a boat ramp, playground, and a small reproduction of an Indian dwelling. The interior portion of this peninsula is a mixed hardwood and pine forest with large quantities of poison ivy along the edge habitat. The perimeter of the peninsula has a steep topography as it interfaces with Buggs Island Lake. There is a lot of washed up woody debris and trash on the shore.

Site 7: Stream that crossed the road near the Panhandle Trail (36°37'32.34"N, 78°31'18.69"W)
Site 7 consists of a small flowing stream running through a mature

hardwood forest. Many fallen logs and rock debris line the bottom and sides of the stream.

Site 8: Panhandle Trail (36°37'1.52"N, 78°30'12.98"W)
The Panhandle Trail is a 12.0 km trail extending to the furthest eastern portions of the park. During the survey period we only visited a small portion of this trail. On the southern side of the trail there is lots of shoreline with huge quantities of rip rap logs and debris. The trail seems to follow an upland ridge. There are varied habitats including mature hardwood forest, fields of grass, and a very well maintained gravel road.

Materials and Methods

The 2009 VHS Annual Survey meeting began on the morning of 2 May and lasted until 1200h 3 May. A night hike of Beaver Pond Trail was conducted between 2054h and 2130h on 2 May. 36 people came to Occoneechee State Park for this survey. Table 1 indicates the number of surveyors, time spent surveying, and total number of person hours spent at each site. A wide range of collecting techniques were utilized during the survey weekend including hand capture, visual encounter, road cruising, listening for vocalizing anurans, flipping debris, tearing apart logs and bark, setting bottle funnel traps, minnow traps, crayfish traps, and baited hoop turtle traps. Each survey team had a member who visually inspected each animal to document parasitism and disease. Digital voucher photos were taken of each species collected. A group leader recorded all data on data sheets. Data collected included a site description, number of animals collected, any interesting or unusual behaviors of phenotypes, and observation of disease or parasitism.

Table 1: The amount of survey effort per research site.

Site	1	1[a]	2	3	4	5	6	7	8
Number of hoop net sets	6								
Crayfish traps	4		4						
Bottle Funnel Traps	10		6						
Minnow Traps	4								
Number of surveyors	11	9	9	11	7	11	9	7	20
Hours surveyed	3.5	.33	6	2	1	1.5	1	.33	1
Person hours of survey effort	38.5		54	22	7	16.5	9	2.31	20

Results

Over the course of the survey time period 28 species were documented (11 frogs, 5 salamanders, 3 turtles, 3 lizards, and 6 snakes) with a total of 297 animals captured. Table 2 summarizes the species collected and the number of animals observed at different sites. Different trapping methods yielded mixed results. Hand capture and visual encounters led to the largest number of observations. Six baited hoop turtle traps yielded two turtles. Sixteen 2-liter bottle funnel traps yielded two marbled salamander larvae, two tadpoles, and one red spotted newt. Four minnow traps yielded five red spotted newts, one juvenile bullfrog, and two bullfrog tadpoles. An annotated checklist follows. Numbers in brackets indicate the survey sites where each species was encountered. *Pseudacris feriarum* appears to be the only possible county record.

Table 2. Summary of the number of animals observed at each site.

Sites	1	1[a]	1[b]	2	3	4	5	6	7	8
Species										
Amphibians										
Acris creptians	67	2		11	2		6	1	1	
Anaxyrus americanus	1	4		2	1	1				
Anaxyrus fowleri	2	39		5			2			1
Hyla versicolor	2	3								
Hyla chrysoscelis							1			
Pseudacris c. crucifer				1						
Pseudacris feriarum				2					1	
Lithobates catesbeianus			3							
Lithobates clamitans	3	3							1	
Lithobates palustris				1						
Lithobates sphenocephalus	1									
Ambystoma opacum	5		5	2						
Desmognathus fucus	1									
Eurycea cirrigera									1	
Plethodon cylindraceous	2				1	1				2
Notophathalumus viridescens	2		5	3						1
Reptiles										
Chelydra s. serpentina			1	1						
Chrysemys picta picta	2		1							
Terrapene c.	4			9	4		2			2
Plestiodon fasciatus	4			3	1	3	1	4		
Scincella lateralis	3			2						4
Scleoporus undulatus	3			5		1		2		1
Agkistrodon contortrix				1						
Carphophis a. amoenus	3			5	3		1			8
Coluber c. constrictor	1			1				2		1
Diadophis punctatus	1			2			1			1
Pantherophis alleghaniensis				1						
Virginia valeriae				1						
Total Number of animals by site	107	51	15	59	12	6	14	9	4	21

1a = Night hike Beaver Pond Trail 2 May. 1b = Traps 3 May 2009.

Annotated Checklist

Amphibians

1. *Acris crepitans* (Northern Cricket Frog) – [1,1a, 2,3,5,6,7]
Northern Cricket Frogs were found in a variety of habits including stream edges, in streams, under logs in mature forest, in leaf litter, and at the edge of Buggs Island Lake. Many males were heard calling from beaver ponds on 1 May and several were found on Beaver Pond Trail during a night hike on 2 May.

2. *Anaxyrus americanus* (American Toad) – [1,1a,2,3,4]
Both adults and tadpoles were observed in various habits. Tadpoles were collected in stagnant pools in three ephemeral stream beds at Mossey Creek Nature Trail, in a steam at the intersection of Panhandle Road and Occoneechee Park Road, and in a stream adjacent to Warriors Path Trail. Males were heard calling from a beaver pond at site 1 and foraging in leaf litter.

3. *Anaxyrus fowleri* (Fowler's Toad) – [1,1a,2,5,8]
Adults of this species were found under logs, under pine bark, and foraging in leaf litter. 6-10 males were heard calling on 1 May at 2000h near the beaver ponds at site 1. Thirty nine juvenile Fowler's Toads were collected on Beaver Pond Trail during a night hike on 2 May. Five juvenile toads were found to have an infestation of chigger mites. The mites were located on the venter of each animal.

4. *Hyla chrysoscelis* (Cope's Gray Treefrog) – [5]
Only one male Cope's Gray Treefrog was heard calling by a stream along Mossy Creek Trail.

5. *Hyla versicolor* (Gray Treefrog) – [1,1a]
Three *Hyla versicolor* males were heard at site one during the 2 May night hike. These males were vocalizing near a series of beaver ponds.

6. *Lithobates catesbeianus* (American Bullfrog) – [1b]
One juvenile and two tadpole American Bullfrogs were captured in minnow traps at site one.

7. *Lithobates clamitans* (Green Frog) – [1,1a,7]
Three males were heard calling from a beaver pond and the outflow creek of a beaver pond on 1 May. Only one adult was found on Beaver Pond Trail during the 2 May night hike.

8. *Lithobates palustris* (Pickerel Frog) – [2]
One Pickerel Frog was collected at site 2 in leaf litter next to an active stream. This animal was parasitized by 6 chigger mites on the ventral side of its rear legs.

9. *Lithobates sphenocephalus* (Southern Leopard Frog) – [1]
One adult Southern Leopard Frog was observed basking on the shore of a beaver pond on 1 May.

10. *Pseudacris crucifer* (Spring Peeper) – [2]
Three *Pseudacris cruifer* males were heard calling on 1 May adjacent to a beaver pond at site 1. One adult was found in leaf litter at site 2.

11. *Pseudacris feriarum* (Upland Chorus Frog) – [2,7]
Upland Chorus Frogs were found foraging in leaf litter and one was found inside a log along a stream with water.

12. *Ambystoma opacum* (Marbled Salamander) – [1,1b,2]
Ambystoma opacum larvae were dipnetted and caught in bottle traps in beaver ponds at site 1. Several adults were found under logs at site 2

13. *Desmognathus fuscus* (Northern Dusky Salamander) – [1]
One Northern Dusky Salamander was found under a rock in a small stream at site 1.

14. *Eurycea cirrigera* (Southern Two-lined Salamander) – [7]
One Two-lined Salamander was found in a stream at site 7.

15. *Plethodon cylindraceous* (White-spotted Slimy Salamander) – [1,3,4,8]
Six White-spotted Slimy Salamander adults were collected under logs at four sites. One adult male was observed with a mental gland. Another adult was parasitized with two chigger mites; one mite was found on its left front foot and another mite was found on its tail.

16. *Notophathalumus viridescens viridescens* (Red-spotted Newt) – [1,1b,2,8]
Three adult Newts were captured in minnow traps at the beaver ponds at site 1. Red eft stage juveniles were found under logs, in leaf litter, inside rotting logs, and under rocks at three sites.

Reptiles

17. *Chrysemys picta picta* (Eastern Painted Turtle) – [1,1b]
Two Eastern Painted Turtles were observed sunning on logs in a beaver pond at site 1. One adult turtle was captured in a baited hoop turtle trap in a beaver pond.

18. *Chelydra serpentina serpentina* (Eastern Snapping Turtle) – [1,1b]
A small Eastern Snapping Turtle was observed swimming in a beaver pond at site 1. A large adult was caught in a turtle trap. This animal had 1 leach attached and several bleeding lesions were observed on its plastron. The damage appeared to be caused by its own claws digging into its shell.

19. *Terrapene carolina carolina* (Eastern Box Turtle) – [1,2,3,5,8]
A total of 19 Eastern Box Turtles were collected during the weekend. Six of the 19 turtles were female, 12 were males, and one could not be sexed. These turtles were found in leaf litter, in grassy fields, and under logs. One male/female pair were mating. One DOR hatching was found on the road. Two dry shells were collected. One was found burned and dead in a forest floor.

20. *Plestiodon fasciatus* (Common Five-lined Skink) – [1,2,3,4,5,6]
The Five-lined Skink was the most commonly collected lizard with 16 animals having been collected or observed. Animals were observed under bark, on edges of log piles, under logs, on trees, and at the base of a retaining wall near the boat ramp. Several parasite species were observed on some animals collected. Parasites include mites and ticks. One adult was observed up a tree eating an unidentified caterpillar.

21. *Scincella lateralis* (Little Brown Skink) – [1,2,8]
Little Brown Skinks were observed under logs, on the ground foraging, and in grass next to a log pile by woods.

22. *Sceloporus undulatus* (Eastern Fence Lizard) – [1,2,4,6,8]
Twelve *Sceloporus undulatus* were collected at 5 sites. Animals were found under logs, on logs, on the ground, and under bark. One male was courting a female on a large oak tree.

23. *Agkistrodon contortrix mokasen* (Northern Copperhead) – [2]
One AOR (alive on road) juvenile Northern Copperhead was found at 2054h on Panhandle Road just past Cabin Road on 2 May. One adult copperhead was found under a log in a log pile at the edge of a forest next to an open field at site 2.

24. *Carphophis amoenus amoenus* (Eastern Wormsnake) – [1,2,3,5,8]
Eastern Wormsnakes were found in the most locations and in the largest numbers compared to all the other snakes. A total of 20 were collected. Adults were found under logs, inside rotten logs, in a pile of rocks from an old foundation of a house, under leaf litter by a stream edge, and in a rock pile, under a log in a burned area at site 2.

25. *Coluber constrictor constrictor* (Northern Black Racer) – [1,2,6,8]
A total of 5 Racers were found. Animals were observed sunning in greenbriers, dry leaf litter, and in an open field near the forest edge.

26. *Diadophis punctatus* (Ring-necked Snake) – [1,2,5,8]
Ring-necked Snakes were found under the bark of fallen logs and under logs at four sites. Four of the five snakes were intergrades, exhibiting complete neck bands and a ventrum with spots. One of the snakes had a complete neck band with a solid ventrum.

27. *Pantherophis alleghaniensis* (Eastern Ratsnake) – [2]
One Eastern Ratsnake was found on the ground next to a log at site 2.

28. *Virginia valeriae valeriae* (Eastern Smooth Earthsnake) – [2]
One adult was found under loose bark on a fallen log.

Discussion

Combining the results of work done by Pague and Larson (1982) with the work done by the VHS in this report, 29 species have been documented for Occoneechee State Park (see Table 3). This number reflects perhaps half of the total that is possible. Eighteen additional species not found in the park are documented for Mecklenburg County and ten more are found in surrounding counties or are so widespread as to be possible for residing in the boundaries of the park. The list of frogs appears to be complete with the exception of *Scaphiopus holbrookii.* This species is wide spread in Virginia and is found in surrounding counties. Surveys during strong thunderstorms could produce an observation of this species.

The number of salamander species documented for the park is surprisingly low. *Ambystoma maculatum, Eurycea guttolineata, Hemidactylium scutatum*, and *Pseudotriton montanus* have been found in Mecklenburg County but not in the park. *Ambystoma talpoideum* has been documented in Halifax County to the west. *Plethodon cinereus, Pseudotriton ruber* and other species could be found in future surveys of Occoneechee. A future investigation related to salamanders may be needed in delineating the contact zone between *Plethodon cylindraceus* and *Plethodon chlorobryonis*. Both species are documented for Mecklenburg County and both may be in the park or the hybrid offspring.

A molecular study is warranted to differentiate between these species. Occoneechee State Park is located near the most northern range of *Eurycea quadridigitata.* It is very likely that a relict population of this species could be found in this area. This species prefers to reproduce in ephemeral ponds and this habitat is represented within the park.

The amount of turtle diversity documented by Pague and Larson (1982) and this study is extremely low. *Clemmys gutatta, Pseudemys concinna, Sternotherus odoratus*, and *Trachemys scripta* are documented in Mecklenburg County with *Kinosternon subrubrum* being found in surrounding counties but were not found in the park. A more concerted trapping effort could significantly increase the turtle species count for the park. Park officials should be on the lookout for the introduced Red-eared Slider (*Trachemys scripta elegans*). This species is often sold in the pet trade and can be introduced into the park by releasing them.

Four lizard species might be found in the park in future hunts. *Aspidoscelis sexlineata, Plestiodon inexpectatus*, and *Ophisaurus attenuatus* are documented for Mecklenburg County and one species *Plestidon laticeps* is found in a surrounding county.

The greatest increase in herpetological diversity will probably come from an increase in snake observations. There are eleven species of snakes not documented for the park but are documented for Mecklenburg County. Many of these snakes are common (*Heterodon platirhinos, Lampropeltis calligaster rhombomaculata, Lampropeltis gutula, Lampropeltis triangulum, Nerodia sipedon, Opheodrys aestivus, Regina septemvittata, Storeria dekayi, Storeria occipitomaculata, Thamnophis sirtalis*, and *Virginia valeriae*). Five additional species (*Cemophora coccinea copei, Pantherophis guttatus, Tantilla coronata, Thamnophis sauritus*, and *Virginia striatula*) are found in surrounding counties. More work needs to be done to fully elucidate the total amphibian and reptile diversity within Occoneechee State Park.

Our overall impression of the park is that it is very well maintained, clean, and staffed with very friendly and helpful personnel. We would encourage the park to allow nonhazardous debris piles to form as opposed to removing them off-site or burning them. Debris piles make great habitat for amphibians and reptiles and other wildlife. Just a note of caution, it is our experience, and the literature supports the observation, that using erosion and deer netting is a source of snake mortality. Snakes are easily entangled in the netting and subsequently die from the injuries. The only source of this netting that we observed at the park was at the Native American reconstructed dwelling. Some parks wrap supplies of wood they sell to the public with this netting, but we did not observe the supply of wood at Occoneechee. In addition, we always encourage parks to keep mud puddles or other temporary water sources instead of draining them. These are great habitats for amphibians which can only breed in temporary or ephemeral water sources.

As a final note, we did witness an emergence of periodical cicada at site 8. This was fascinating to observe.

Table 3. Comparison of species found during the Pague survey (CAP) verses the Virginia Herpetological Society's (VHS) survey.

Species	CAP	VHS
Amphibians		
Acris creptians	*	*
Anaxyrus americanus		*
Anaxyrus fowleri	*	*
Gastrophryne carolinensis	*	
Hyla versicolor	*	*
Hyla chrysoscelis	*	*
Pseudacris crucifer		*
Pseudacris feriarum		*
Lithobates catesbeianus		*
Lithobates clamitans		*
Lithobates palustris		*

Species	CAP	VHS
Lithobates sphenocephalus	*	*
Ambystoma opacum		*
Desmognathus fucus		*
Eurycea cirrigera		*
Plethodon cylindraceous		*
Notophathalumus v. viridescens	*	
Reptiles		
Chelydra serpentina serpentina		*
Chrysemys picta picta		*
Terrapene carolina carolina	*	*
Plestiodon fasciatus	*	*
Scincella lateralis	*	*
Scleoporus undulatus	*	*
Agkistrodon contortrix mokasen		*
Carphophis amoenus amoenus		*
Coluber constrictor constrictor		*
Diadophis punctatus		*
Pantherophis alleghaniensis		*
Virginia valeriae valeriae		*

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VHS 2011 Dues Reminder

Please remember that VHS dues are paid on a calendar basis. Dues for 2011 may be paid in advance to eliminate the need for the Treasurer to contact members. Dues for individuals are $15 per year ($20 for family memberships). Cash, Checks or Money Orders (made out to the VHS) may be mailed to :

Emily Steele
VHS Treasurer
174 Lori Circle
Newport News, VA 23602

Dues may also be paid via Credit Card and Paypal through the VHS Web Site: http://www.virginiaherpetologicalsociety.com/

Blue Ridge Scout Reservation Surveys
Resource Ramble I, II and III 2007-2009

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Introduction

The Resource Ramble is an annual survey of all taxonomic groups, geology, and archeological remains which occur on the Blue Ridge Mountains Boy Scout Reservation. The Blue Ridge Mountains Council of the Boy Scouts of America owns the largest Boy Scout camp in the eastern United States. The 6475 hectare (16,000 acre) camp lies mostly in Pulaski County and falls within the Blue Ridge physiographic province. The original and largest land purchase was made in 1957 with some smaller purchases made in the 1960s. The Scout Reservation is a beautiful area of rolling hills covered by a forest of mixed pines and hard woods including *Quercus* sp. (oaks), *Tsuga canadensis* (hemlock), *Pinus strobus* (white pine), *Pinus virginiana* (Virginia pine), and *Rhododendron* sp. Elevation of this property ranges from 670 m to 975 m (2200' to 3200'). Due to the elevation and substrate, the soil is well drained and dry. Drainage flows to the New River watershed basin.

Materials and Methods

The Virginia Herpetological Society organized the amphibian and reptile survey for each of three Resource Rambles, between 2007-2009. We had a group ranging from 3 to 9 people operating each year. Collecting at each site included visual sightings, dipnetting, over-turning cover objects, listening for calling anurans, and hand capture. Each animal captured was inspected for overall health and disease, with observations documented on data sheets. Digital photos and/or digital sound recordings were collected for each species encountered when such equipment was available.

Resource Ramble I, II and III

Survey Sites

Camp Ottari is located on the northeastern side of the Reservation and was surveyed on 13-14 April 2007 and 28-29 August 2009.

Site 1: Camp Headquarters and Cabins (36° 59' 42.8"N 80° 34' 42.4"W). Camp Ottari headquarters is a group of buildings set in a hardwood forest. There are paved and stone roads, and some pallets, to serve as flooring for scout tents erected in small villages.

Site 2: Lake Ottari (36° 59' 33.0"N 80° 34' 36.4"W) is a man-made lake from damming Little Laurel Creek at an elevation of about 730 meters. Since this is in the mountains, the substrate is mostly rock and precluded setting turtle traps since poles could not be driven into the rock bottom.

Site 3: Little Laurel Creek and floodplain west and upstream of Lake Ottari (36° 59' 27.2"N 80° 34' 52.5"W). Little Laurel Creek is a moderate sized creek with a rocky substrate. Both banks are surrounded by a mature forest. Immediately adjacent to the bank is a *Rhododendron* sp. thicket. Thick leaf litter and logs make up the substrate of the forest floor. A firing range and a blacksmith and wood working workshop are adjacent to the creek.

Site 4: Little Laurel Creek and floodplain east and downstream of Lake Ottari (36° 59' 30.4"N 80° 34' 32.7"W). This portion of Little Laurel Creek is wider than the creek at site 3 and has similar physical features including the surrounding forest. No large man-made structures are located at this site.

Camp Powhatan is located on the central western side of the Reservation and was surveyed on 13-15 June 2008.

Site 5: Lake Powhatan (36° 57'55.5"N 80° 39' 47.4"W). A man-made pond built by damming Big Macks Creek was surveyed on 13-14 June 2008.

Site 6: Created Marsh at Nature Center (36° 57" 55.2"N 80° 39" 42.1"W). This area at the Nature Center consists of a small pond and stream where water was recirculated in a small stream. It was surveyed 13-15 June 2008.

Site 7: Along Big Macks Creek northwest of Lake Powhatan (36° 58' 33.9"N 80° 40' 54.3"W). The area between Co. Rt. 655 into Camp Powhatan and Big Macks Creek was surveyed 13 June 2008.

Site 8: Intersection of Greenwood and Burks Run Trails, North of Camp Powhatan (N 36° 58' 23.4" 80° 39' 23.4"W). A site where some timbering had been done resulting in brush and wood piles within hardwood forest was surveyed on 14 June 2008.

Site 9: Along Big Macks Creek southeast of Lake Powhatan (N 36° 57' 30.5" W 80° 39' 34.5"). The steep sides of a small ravine, forested with hardwoods and rhododendron was surveyed the evening of 14 June 2008.

Site 10: Jersey Ridge Woodpile (N 36° 57' 45.8" W 80° 39' 51.0"). An open area at the top of a ridge where building debris and brush was piled was surveyed the afternoon of 14 June 2008 and the morning of 15 June 2008.

Results

A total of 8 different species of reptiles were verified during the Resource Rambles. This includes 2 lizards, 5 snakes and 1 turtle species. A total of 19 species of amphibians were documented. This includes 8 different anurans and 11 species of salamanders. Altogether, 27 species of herps were documented for the Blue Ridge Boy Scout Reservation in Pulaski County. In the annotated checklist of species which follows, the numbers within brackets represent sites where species were found. These results are summarized in Table 1 which lists the number of individuals of all species found at the various sites.

Annotated Checklist:

Amphibians:

1. *Anaxyrus americanus* (American Toad) [1, 2, 4, 8]
All the toads found at the Boy Scout Reservation were American Toads. They were found both foraging out in the open and under cover objects such as rocks and boards.

2. *Hyla versicolor* (Gray Treefrog) [5, 6]
All of the Gray Treefrogs observed at the Boy Scout Reservation were *Hyla versicolor* based on the male mating calls. They were plentiful during June 2008 since that was during the breeding season. All of the individuals observed appeared to be males near sources of water, which were calling.

3. *Lithobates catesbeianus* (American Bullfrog) [2, 5, 6]
Most of the Bullfrogs recorded were males calling. Most were calling from the two lakes, one at each camp, but at least one was seen in a small pond at the base of the dam of Lake Powhatan.

4. *Lithobates clamitans* (Green Frog) [3, 4, 5, 6]
Green Frogs were heard calling in June 2008 from Lake Powhatan and the small man-made pond at the Nature Center at Camp Powhatan. Juveniles were found under rocks along Little Laurel Creek both east and west of Lake Ottari in the spring of 2007 and fall of 2009.

5. *Lithobates palustris* (Pickerel Frog) [1, 2, 4]
Pickerel Frogs were observed around Lake Ottari and Little Laurel Creek east of the lake. One egg mass was observed in Lake Ottari in April 2007. None were seen during the 2008 survey of the Camp Powhatan side of the Reservation.

6. *Lithobates sylvaticus* (Wood Frog) [2]
Wood Frogs were only observed as tadpoles in a road rut running along the northern shore of Lake Ottari.

Table 1. List of species	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10
Amphibians										
Anurans										
Anaxyrus americanus	2	1		1				1		
Hyla versicolor					calling	12				
Lithobates catesbeianus		1			calling	calling				
Lithobates clamitans			1	2	calling	calling				
Lithobates palustris	1	eggs		1						
Lithobates sylvaticus		50+ tadpoles								
Pseudacris crucifer		37+			calling	calling				
Pseudacris feriarum		3 ♂ calling								
Salamanders										
Ambystoma maculatum		eggs/ larvae								
Desmognathus monticola		1	37	35					18	
Desmognathus quadra-maculatus			1	9					7	
Eurycea cirrigera		2	60	23			1		4	
Eurycea longicauda							1		2	
Gyrinophilus porphyriticus			1							

Notopthalmus viridescens		32		14	3				1	
Plethodon cylindraceous				1					8	
Plethodon wehrlei	3		19							
Plethodon yonahlossee									1	
Pseudotriton ruber			1							
Reptiles										
Lizards										
Plestiodon fasciatus							2	2		
Sceloporus undulatus	27	3		3			3	13		1
Snakes										
Agkistrodon cortortrix				1				1		
Crotalis horridus										1
Diadophis punctatus edwardsii				1					1	
Pantherophis alleghani-ensis	1					1				
Storeria occipitomaculata										1
Turtles										
Terrapene carolina	1									
Total	35	130+	120	91	3+	13+	7	17	42	3

7. *Pseudacris crucifer* (Spring Peeper) [2, 5, 6]
Spring Peepers were both heard and observed around the larger bodies of water at both camps. Males were heard calling from a cattail thicket near the beach area (12+) and shrubs near the dam (20+) of Lake Ottari, as well as choruses from Lake Powhatan and the Nature Center pond at Camp Powhatan.

8. *Pseudacris feriarum* (Upland Chorus Frog) [2]
A small Chorus Frog chorus was heard on the afternoon of 13 April 2007 from the dam at Lake Ottari. No recordings were possible of the chorus and the males could not be located from their concealed calling sites. From the calls, the species was identified as *Pseudacris feriarum*. The chorus was silent that same evening when a group returned to listen for calling anurans.

9. *Ambystoma maculatum* (Spotted Salamander) [2]
Spotted Salamander eggs were found in Lake Ottari near the dam and larvae were observed in a ditch near the dam in April 2007. No adults were seen.

10. *Desmognathus monticola* (Seal Salamander) [2, 3, 4, 9]
Seal Salamanders were common in all the streams on both sides of the Boy Scout Reservation. They were present in large numbers regardless of the season of the year and were found under rocks along the margin of streams.

11. *Desmognathus quadramaculatus* (Black-bellied Salamander) [3, 4, 9]
Black-bellied Salamanders were found in Little Laurel and Big Macks Creeks. They were not as plentiful as Seal Salamanders. They were found under rocks along the edge of these streams.

12. *Eurycea cirrigera* (Southern Two-lined Salamander) [2, 3, 4, 7, 9]
Two-lined Salamanders were the most numerous species found at the Reservation. They were present in all the streams examined. Most were found under rocks along the margins of streams, however, one

was found under the bark of a log slanted at an angle upwards from the margin of the stream 1.3 meters above ground level in August 2009.

13. *Eurycea longicauda* (Long-tailed Salamander) [7, 9]
Long-tailed Salamanders were found along Big Macks Creek both northwest and southeast of Lake Powhatan. One was found under a log pile away from the bank of the creek. The other two were found out foraging at night along the stream margin.

14. *Gyrinophilus porphyriticus* (Northern Spring Salamander) [3]
The only Spring Salamander was found under a rock in the dry stream-bed of Little Laurel Creek.

15. *Notopthalmus viridescens* (Red-spotted Newt) [2, 4, 5, 9]
Newts were found in both Lake Ottari and Powhatan. In April 2007 courtship and amplexus was observed in Lake Ottari. An eft was found along the floodplain of Big Macks Creek in a shale pit. Several adults were observed along Little Laurel Creek east of Lake Ottari. Five were under rocks along the banks of the stream. Two were found dead along the creek, one under a rock and another on top of a rock along the margin of the stream.

16. *Plethodon cylindraceous* (White-spotted Slimy Salamander) [4, 9]
Slimy salamanders were found under logs within the floodplains of Little Laurel and Big Macks Creeks. Both *P. cylindraceous* and *P. glutinosus* are known from Pulaski County. These slimy salamanders were identified using 6-phosphogluconate dehydrogenase as a species-specific marker after the methods of Highton et al. (1989) with *P. cylindraceous* controls from Bedford County and P. glutinosus controls from Dickenson County.

17. *Plethodon wehrlei* (Wehrle's Salamander) [1, 3]
Wehrle's Salamanders were found only in April 2007. Most were found under logs along the floodplain of Little Laurel Creek. One was found under the bark of a log in a pile, 0.5 meters from ground level. At the same site (3) another was found under a length of treated 2x2

inch piece of lumber. In April, adult males could be distinguished by their mental glands. Juveniles often had two rows of red spots down the back (Conant and Collins, 1991). At Site 3 a series were measured with snout-to-vent length and sex recorded for each specimen. These data are recorded in Table 2. The one male from this series regurgitated an earthworm when handled. Two gravid females and two juveniles were found under the same log.

Table 2. Snout to vent length and sex of 12 *Plethodon wehrlei* from Site 3.

SVL (mm)	Sex
63	gravid ♀
63	gravid ♀
56	gravid ♀
58	gravid ♀
59	gravid ♀
61	♂ with mental glands
45	Juvenile
42	Juvenile
41	Juvenile
53	Juvenile with red spots
50	Juvenile with red spots
--	Juvenile

18. *Plethodon yonahlossee* (Yonahlossee Salamander) [9]
The one Yonahlossee Salamander observed was found beside a log, at night, on very steep slope above Big Macks Creek at Camp Powhatan. It was evidently out foraging and may have had a "burrow" under the log near where it was found. Since this was the first specimen of this species many of the group had seen, it was kept for photographs the following day. It was then returned to the same vicinity and released under a log.

19. *Pseudotriton ruber ruber* (Northern Red Salamander) [3]
The only Red Salamander found during the surveys was within the cav-

ity of a log at the Mountain Man Shooting Range near Little Laurel Creek, about 0.2 meters above ground level.

Reptiles:
20. *Plestiodon fasciatus* (Common Five-lined Skink) [7, 8]
The Five-lined Skinks were observed sunning on logs in brush piles and under the bark of cut logs at Camp Powhatan in 2008.

21. *Sceloporus undulatus* (Eastern Fence Lizard) [1, 2, 4, 7, 8, 10]
The Eastern Fence Lizard was by far the most common lizard observed. A total of 50 individuals were observed over the three years. Both sexes and juveniles were commonly observed sunning on trees. In April 2007 one male was observed biting the neck of a female, presumably in courtship.

22. *Agkistrodon contortrix* (Northern Copperhead) [4, 8]
Both of the Copperheads observed were found under cover. The one at site 4 was under a log and the one at site 8 was under a board pile.

23. *Crotalis horridus* (Timber Rattlesnake) [10]
The one Timber Rattlersnake found was observed basking in a large log/debris pile on 15 June 2008. The debris pile was located on a cut-over ridge where the morning sun could penetrate the forest canopy, the perfect basking location for a large snake. Since this was the first Timber Rattlesnake seen by many in the group, it was extensively photographed with telephoto lenses. The snake seemed quite unbothered by the human presence and continued to sun in spite of our activity.

24. *Diadophis punctatus edwardsii* (Northern Ring-necked Snake) [4, 9]
There were only two Ring-necked Snakes observed during the Resource Rambles. Both were found under cover objects. The one at Site 4 was found under a log along Big Macks Creek and the other was uncovered only by furiously digging in a leaf and rock pile at the base of a tree along Lake Ottari in a futile search for a large skink which sought refuge from capture in the root system at the base of the tree on

which it was basking. The appearance of the Ring-necked snakes was typical of the Northern Ring-necked Snake with a complete collar and the absence of black half-moons on the venter.

25. *Pantherophis alleghaniensis* (Eastern Ratsnake) [1, 6]
The two Eastern Ratsnakes observed were found in the base camps at both Camp Ottari and Camp Powhatan. They were both observed crawling along the ground.

26. *Storeria occipitomaculata* (Northern Red-bellied Snake) [10]
The Red-bellied Snake found at Camp Powhatan was discovered under cover at the debris pile on Jersey Ridge mid-June 2008. Later in the same summer, camp staff found and photographed another near the base camp at Powhatan.

27. *Terrapene carolina* (Eastern Box Turtle) [1]
The only evidence of any turtle in any year was the shell of a Box Turtle found in the woods near the base camp at Camp Ottari in 2007.

Discussion

From Table 1 it can be seen that a total of 8 reptile and 19 amphibian species were documented for the Blue Ridge Boy Scout Reservation during the three Resource Rambles. The amphibians are much better represented than the reptiles, primarily due to weather constraints during the three surveys. There was some sunny sky seen during most of the surveys, but all three surveys were marked by heavy and sometimes prolonged rain showers. This was not ideal weather for reptiles and probably accounts for some of the low numbers observed, both of individuals and number of species. Of the eight species seen, only three were out from under cover when seen (*Crotalis horridus, Pantherophis alleghaniensis*, and *Sceloporus undulatus*). Future surveys at the Reservation should target the late spring and summer months when reptiles are more likely to be active. Turtles are underrepresented in our surveys because of the nature of the two man-made lakes. Both Lake Ottari and Powhatan are formed by damming streams in valleys. The

substrate is mostly rock with only a thin layer of sediments, insufficient for setting turtle hoop traps. Future survey efforts might try alternative methods for setting turtle traps.

The Virginia Department of Fish and Wildlife Information Service dataset lists 15 reptile species documented for Pulaski County, so there are obviously more species to be found from the Reservation. Of the 8 reptile species we did observe, 4 were not previously documented for Pulaski in this database. These species include *Crotalus horridus, Storeria occipitomaculata, Plestiodon fasciates*, and *Sceloporus undulatus.* Mitchell (1994) lists the Five-lined Skink and Eastern Fence Lizard as present for Pulaski County. Both Linzey and Clifford (1995) and Tobey (1985) list *Crotalus horridus* as being present in Pulaski County; however Mitchell (1994) lists the Rattlesnake as unvouchered for Pulaski County, with reports from Snowville and Camp Powhatan. Rattlesnakes have been previously observed by Camp Staff but have not been formally documented previously. A photographic voucher was taken for the *Crotalus horridus* observed in 2008, and deposited in the VHS Digital Archive (# 143). *Storeria occipitomaculata* was also not listed in the Virginia DGIF Database, Tobey (1985), Linzey and Clifford (1995), Mitchell (1994) or Mitchell and Reay (1999). A voucher of the specimen we found in 2008 has been deposited in the Liberty University Natural History Museum (#701). The same summer we observed the Red-bellied Snake, Camp Staff later sent us a digital photo of a second specimen they had captured, photographed and released, asking for a positive identification. This digital photo has also been placed in the VHS Archive (#145). One large skink was observed but not captured during the 2009 survey on a tree near Lake Ottari which may have been *Plestiodon laticeps.* Future survey efforts during warmer summer months should also place efforts at checking the lake margin for Broad-headed Skinks. They have been documented for Montgomery County just to the east of Pulaski, and their presence in eastern Pulaski County is not unreasonable.

The Resource Rambles did a much better job at documenting amphibians than reptiles. The Virginia DGIF Information Services database

lists 25 amphibians as documented for Pulaski County, and we found 17 of these. Most of the anurans we found are widely distributed in western Virginia, such as *Anaxyrus americanus, Lithobates catesbeianus, L. clamitans, L. palustris, L. sylvaticus*, and *Pseudacris crucifer.* Although *Pseudacris feriarum* is perhaps not common in western Virginia, there are multiple reports for Montgomery County to the east so it is not unusual to find it in eastern Pulaski County. With all the records for western Montgomery County, it is surprising that no one has previously documented *Hyla versicolor*. Although not listed in the DGIF database, Mitchell and Reay (1999) or Tobey (1985), they were commonly found at Camp Powhatan. This probably reflects the poor history of surveys for the county rather than an unusual find. The Gray Treefrog was photographed and a digital image placed in the VHS Digital Archive (#142). Because we were there in June, the males could be identified by their mating call. April and August at Camp Ottari was outside the normal peak of mating calls so they are not yet documented from the eastern side of the Reservation. We were surprised not to have found *Anaxyrus fowleri*. There are scattered records for Fowler's Toad in western Virginia, including Pulaski County. There is sandy soil in the stream valleys and what would appear to be suitable habitat, particularly along the sandy beaches created at Lake Ottari and Powhatan.

Likewise, most of the salamanders found are widely distributed in western Virginia, such as *Ambystoma maculatum, Desmognathus monticola, D. quadramaculatus, Eurycea cirrigera, E. longicaudata, Gyrinophilus porphyriticus, Notopthalmus viridescens, Pseudotriton ruber*, and *Plethodon cylindraceous*. Therefore, there were no unusual finds. *Plethodon wehrlei* appears to be more abundant to the east in Montgomery and Floyd Counties, but is known from eastern Pulaski County where we surveyed. We found it interesting that while they seemed somewhat abundant in April, we did not find them in June or August although there were rains and what appeared to be good conditions for salamanders.

One of the most surprising finds was that of the Yonahlossee Salamander (*Plethodon yonahlossee*). Camp Staff had marked on our map

"endangered salamander" at Camp Powhatan for the area surrounding Little Macks Creek south of where it joins Big Macks Creek but they could not tell us what endangered species the mark referred to. Other than *Cryptobranchus alleganiensis,* we were not aware of any salamanders with special status likely to occur in this area. After a good rain on 13 June 2008 some of the survey team went out at night walking Big Macks Creek and the very steep slopes above the creek. After some time of searching we were finding many of the same species we had seen earlier in the day. Then, we found an adult *Plethodon yonahlossee* in full color sitting out in clear view, beside a log. It was a splendid sight!

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An Unusual Breeding Event in an Urban Park in Danville, Virginia with specific notes on the Eastern Spadefoot (*Scaphiopus holbrookii*).

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Introduction

The various factors which stimulate breeding in anurans are poorly understood. Obviously, the season, temperature and rainfall are involved, but it can be hard to predict exactly when anurans will breed, or how many species in one geographic locality will breed during any one rainfall event. This report describes one heavy rain event on 4 June 2009 and the anurans found breeding in an urban park, with specific/additional notes on the Eastern Spadefoot (*Scaphiopus holbrookii*). The Eastern Spadefoot is known as an explosive breeder; reproduction is activated primarily by heavy rainfall (Dorcas and Gibbons, 2008). Shortly after breeding, the species returns to its fossorial habitat and is rarely seen outside of breeding events. Very few observations of breeding choruses have been documented in Virginia and little is known about egg laying and tadpole development (Sattler and Gibson, 2007). One goal of this paper is to contribute information about this species in Virginia.

Methods

On the night of 4 June 2009 JG and PS traveled to Dan Daniel Memorial Park and Anglers Park in Danville, Virginia to observe which amphibians a 1.4 centimeter rain (accumulated by 1700 h) had induced to reproduce. Rain continued to fall during the duration of a search which lasted from 2100 h to 2320 h. The starting and ending temperatures were 18.8°C and 17°C, respectively. Our method of surveying consisted of road cruising with subsequent searching on foot in areas with

calling males. At each location we documented a description of the site and recorded all of the species heard calling or hand captured (see Appendix 1). Pictures were taken to document rare species, deformities, and unusual behaviors. All sites were visited periodically by JG from 5 June until 24 June when all the pools had dried. A small complement of tadpoles were collected on 5 June and raised for 20 days until metamorphosis.

Results and Discussion

Thirteen species of anurans were either heard or hand captured in a 2.5 hr period on 4 June (Table 1). Ten of the thirteen species were heard vocalizing during the survey period. Additionally, we found two species of salamanders and one turtle. Seven or more anurans were documented at three sites. Site 5 had the highest diversity of anurans with 11 species being documented at this wetlands area.

On the night of 4 June we documented 11 species of anurans at Dan Daniel Park (sites 1-4). *Anaxyrus americanus* and *Pseudacris feriarum* were uncharacteristically calling at this late time of the year. We have been documenting calling times for more than a decade in this area and have never had calling times this late for these species. At four sites, *Hyla chrysocelis* and *Hyla versicolor* were both calling. We noted that each species was calling from distinctly different microhabitats at site 2. Two male *Hyla versicolor* were observed calling from surrounding trees and all *Hyla chrysocelis* were heard calling from the ground surrounding the breeding pool. The most interesting observations came from sites 4A, 4C and 4D. We found 5 calling males and 1 amplexed pair of spadefoots at site 4A. At site 4C we found a chorus of approximately 50 Eastern Spadefoot. At site 4D we estimated approximately 100 calling *Scaphiopus* males. Dozens of these spadefoots were found in amplexus. Site 5 was visited last on 4 June. It turned out to be the most diverse of all sites visited. Seven species of anurans were calling and a total of 11 species were observed at this site. Surprisingly, only one individual Eastern Spadefoot adult was found beside the breeding wetlands at this site. After 2.5 h of effort we documented 13 species of anurans, which accounts for all the anuran species known or likely for

Table 1. Species observed at each of five sites.

Site	1	2	3	4 A	4 B	4 C	4 D	5
Anurans								
Acris crepitans								C
Anaxyrus americanus			C2		C4			M
Anaxyrus fowleri			C2		C2			C
Gastrophryne carolinensis	C	AC12	C12		C			C
Lithobates catesbeianus	C		R1					C1
Lithobates clamitans	MR		R3					C3M
Lithobates sphenocephalus	MR							M
Lithobates palustris								M
Hyla chrysocelis	C	AC	C		C			C
Hyla versicolor	C	C2	C		C			C
Pseudacris crucifer	R1							
Pseudacris feriarum				C2				
Scaphiopus holbrookii				AC5		C50	AC100	1
Salamanders								
Ambystoma opacum						R1		M4
Desmognathus fuscus						R2		
Turtles								
Kinosternon subrubrum			1					

A = amplexus observed, C = calling anurans, M = metamorph, R = individual caught on road. Numbers = number of individuals captured or estimated from calling males.

for this area.

On 5 June sites 2, 3, and 4 were visited at 1120 h and 2100 h to listen for calling anurans and to look for egg deposition. The rainfall, as of 1700 h Friday, totaled 3.1 centimeters. *Gastrophryne carolinensis* was calling from all sites during the daytime. Two egg masses of this species were observed floating in a wet area at site 2. Several *Pseudacris feriarum* were vocalizing at 1120 h from a vernal pool adjacent to a forested area at site 4. One lone male Eastern Spadefoot was heard calling at 1120 h from the forested vernal pool located at site 4. The large vernal pool in the grassy field at site 4 yielded the most interesting observations. This site on 4 June had around 100 spadefoots with many amplexed pairs. On 5 June, clustered in the southwest corner of the vernal pool, were numerous spadefoot eggs deposited on vegetation and submerged sticks. A search of the pond at 1130 h produced three amplexed pairs of toads and seven individual males. Two of the amplexed pairs, one female from an amplexed pair, and seven individual males were hand captured. Each of the twelve spadefoots were measured, inspected for disease, inspected for the presence of ectoparasites, and sexed (Table 2).

Table 2. Information gathered on 12 spadefoots collected 5 June 2009.

No.	SVL (mm)	Sex	Notes
1	51	M	
2	55	F	Spent female (no eggs visible through skin)
3	53.5	M	
4	46	F	Found in amplexus (proximal portion of front limbs missing)
5	52	M	
6	54	M	
7	52	M	
8	57	F	Eggs visible through skin.
9	58.5	M	
10	58	M	
11	55	M	
12	53	M	

One female found in amplexus was observed to have either a double front limb amputation or bilateral ectromelia (a genetic or developmental defect causing incomplete development of a limb) (Meteyer, 2000). We did not take x-rays to determine the true nature of the condition. Information on diseases, malformations, and parasites are generally lacking for this species (Palis, 2005). The North American Reporting Center for Amphibian Malformations only has 3 reported cases of malformations for this species in Virginia. To our knowledge bilateral ectromelia has not been documented. We speculate that our observation was probably caused by a predator attack or a tractor mowing the grass field rather than a developmental defect. In future encounters with this population, we will try to collect more adults to check for additional deformities and malformations. On the night of 5 June no spadefoots were heard calling from any of the sites. Calling *Anaxyrus fowleri* were very numerous at site 4.

On 6 June the sites were surveyed again. As of 1700 h the air temperature was 21°C and water temperature was 33°C at site 4. As of 1719 h the spadefoot eggs had hatched and larvae were observed on the egg jelly. Some eggs were swollen and white with fungi. A search of the vernal pool did not reveal any adult Eastern Spadefoots. The adults that were kept on 5 June were released into the vernal pool one at a time after being photographed. Each spadefoot immediately exited the pond to the east and headed directly for the forested area adjacent to the grass field. A small sample of tadpoles was collected to rear through metamorphosis. Of note, several Eastern Narrow-mouthed Toads were calling from the periphery of this vernal pool and several egg masses of this species were observed floating on the surface. No other anuran eggs were observed in this pool. The forested vernal pool at site 4 had continuous and overlapping calls of *Gastrophryne carolinensis* at 1700 h. One *Lithobates clamitans* was also heard calling from this area. Site 5 was visited at 1759 h. Calling anurans included *Acris crepitans* (four males), *Anaxyrus fowleri* (one male), *Gastrophryne carolinensis* (continuous chorus with many overlapping males), *Lithobates clamitans* (two males), and *Lithobates catesbeianus* (one male).

The vernal pools with Eastern Spadefoot tadpoles were visited on 18, 19, 21, and 24 June. By 24 June all the pools were completely dry. No metamorphs were found from any of the sites. Tadpoles were found on 18 and 19 June at two of three sites known to have eggs deposited. The grassfield vernal pool did not yield any tadpoles. Perhaps high levels of bird predation in this pool, with no concealing cover, caused this observation. Schooling behavior of spadefoot tadpoles was observed at one of the two remaining sites and scavenging of dead earthworms by the tadpoles was a common observation.

The tadpoles JG took home to rear were raised using spring water, natural algae, and thawed frozen lettuce. The tadpoles were divided into 3 plastic containers of the same size and same volume of water. Of the dozen tadpoles that were reared, three were hypopigmented. These tadpoles exhibited no pigmentation except for pigmented irises. This is defined as a degree of albinism called leucistic (Dyrkacz, 1981). These tadpoles were smaller in size than the rest of the normally pigmented tadpoles. On 25 June the tadpoles were observed with front legs (It took 20 days for all four legs to form and thus for the final stages of metamorphosis to begin). Water was held constant at 26.6°C. Metamorphs with all 4 legs were separated and put into a tank with some rocks and water. On 3 July one representative normal phenotype and one leucistic phenotype metamorph were viewed under a stereomicroscope to note differences in chromatophore composition. The normal phenotype exhibited the following phenotypic characteristics: the iris had a brilliant golden rim surrounding the vertical pupil, the warts on the body were dark red with large amounts of pigment, the body had concentrated amounts of dark melanin pigment, the legs were dark with melanin but not as dark as the body, and the head and bifurcated pigment band extending the length of the body had much golden pigmentation. The leucistic phenotype exhibited the following characteristics: the iris had a brilliant golden rim surrounding the pupil, the warts were red but with less pigment than the normal phenotype, the body was tan (light tan is some places and darker tan in others) with a reduced amount of melanin compared to the normal, the legs had very little

melanin thus making it light tan, many of the blood vessels were easily visible through the skin, the head had many fewer golden specs and the bifurcated (lyre) dorsal body pattern had so few golden specs that it was almost not visible. The leucistic metamorph was distinctly smaller in size that the normal phenotype. The cause of the decrease in pigmentation (and size) could have a genetic, metabolic, or endocrine etiology. The underlining cause was not pursued.

It amazes us that one large rain could bring out all thirteen species of anurans on one night. This survey suggests that documentation of all the anurans species in a given area can be obtained on one night. We encourage all readers to explore wetlands during heavy rainstorms and to publish their results. Many interesting observations on rare and common species may be obtained. These records will also help better delineate the distribution of the anurans in our state.

Acknowledgments

We would like to thank Mark Gibson for helping to photograph and measure the Eastern Spadefoots found on 5 June.

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Appendix 1. Description of survey sites sampled at Dan Daniel Park and Angler's Park in Danville, Virginia.

Dan Daniel Park Sites
Site 1 (36°34'38.10"N, 79°22'8.57"W)
Site 1 consisted of a softball field parking lot sitting adjacent to a man-made pond. The pond is used to catch runoff from the softball fields and parking lot before it enters a small ephemeral stream. The pond is surrounded by a mature hardwood forest on one side and a young successional forest of pines on the other.

Site 2 (36°34'29.93"N, 79°22'21.01"W)
Site 2 sits adjacent to the War Memorial and a picnic shelter. The area consisted of a poorly draining area which pools with water during rain events. The site is next to a mature hardwood forest.

Site 3 (36°34'32.18"N, 79°22'27.36"W)
Site 3 was a series of road ruts between two hard paved roads. The area receives runoff from the roads and from drain pipes coming from a baseball field. The grass surrounding this site is mowed short. Nearby this site is a small patch of forest.

Site 4
Site 4 consisted of a series of microhabitats which are adjacent to one another each having unique characteristics.

A. (36°34'36.22"N, 79°22'32.07"W)
This site consisted of a small pool between a paved walking trail and a small patch of mature hardwood forest. The pool depth was about 12 cm.

B. (36°34'36.56"N, 79°22'32.87"W)
This site consisted of a small flooded area between a paved walking trail and a grassy field. Adjacent to this site is a small stream and a small patch of mature hardwood forest.

C. (36°34'38.90"N, 79°22'32.84"W)
This site was a long patch of mature hardwood forest with a slough running down the middle. During dry periods this slough complexly evaporates. On one side of this site was a paved road used by city and state maintenance vehicles. The other side is a series of grass fields.

D. (36°34'41.29"N, 79°22'35.60"W)
This site consisted of a flooded grassy field. The grass surrounding this site is mowed short.

Anglers Park Sites
Site 5 (36°33'42.31"N, 79°21'33.20"W)
Site 5 was a restored vernal wetlands area consisting of a main ephemeral water impoundment with low vegetation surrounding the periphery. It is bordered by soccer fields on one side and a road on the other. A mature hardwood forest is nearby. This site sits on a flood plain of the Dan River.

***Acris crepitans* (Northern Cricket Frog).** VA: Franklin Co., 358 Snow Creek Road. 4 March 2010. Morgan Cordani.

County Record. While visiting his grandparents home, Morgan Cordani captured and photographed a Northern Cricket Frog on 4 March 2010. The weather was clear and sunny. The air temperature was 24°C. The cricket frog was not found in or near water, but in the yard of a residential home. A digital photograph was deposited in the VHS Digital Archive (#157) as a voucher.

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Roanoke VA 24012

***Chrysemys picta* (Painted Turtle)** VA: Fluvanna County, 316 Taylor Ridge Way, Palmyra. 14 June 2010 David A. Perry, Kory Steele

County Record. An adult painted turtle was found at 0915 h on the back lawn of the private property of 316 Taylor Ridge Way about 3 meters from a mixed pines and hardwood tree line and 15 meters from a permanent but small spring. Skies were clear and the painted turtle appeared to be basking (not nesting) with the morning temperature about 24C (75F). The carapace and plastron measured 12.7 cm (5 inches) and 11.4 cm (4.5 inches), respectively.

This specimen had elongated nails on the fore limbs, which is indicative that it is male. The painted turtle was observed overnight (some photographs are available) and was released at the same spot on 15 June 2010.

This is the first recorded sighting of a painted turtle in Fluvanna County. According to Mitchell and Reay(1999, Atlas of Amphibians and Reptiles in Virginia. Special Publication Number 1,Virginia Department of Game and Inland Fisheries, Richmond, VA 122pp.) *Chrysemys picta*

has not been previously recorded from Fluvanna County, although it has been found in neighboring counties to the north, east and south. A digital picture of the specimen was submitted to the VHS archives (voucher #168).

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316 Taylor Ridge Way
Palmyra, VA 22963

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174 Lori Circle
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***Agkistrodon piscivorus piscivorus* (Eastern cottonmouth)**. VA: Virginia Beach, Back Bay National Wildlife Refuge. 7 August 2010. Rebecca and Howard Nichols.

Habitat/Microhabitat: The Eastern cottonmouth utilizes swamps, freshwater and brackish marshes, streams and rivers as well as upland habitats adjacent to permanent and semipermanent water bodies and are found underneath vegetation and debris as well as basking on logs or limbs over water when not in water (Mitchell, J.C. 1994. The Reptiles of Virginia. Smithsonian University Press, Washington and London. 352 pp.). On 7 August 2010, Rebecca and Howard Nichols were visiting Back Bay National Wildlife Refuge via the Dune Trail. At 0657 h while walking along an area of open barrier beach of the Atlantic Ocean, they identified an Eastern cottonmouth protruding from a hole in the sand. The snake remained motionless at their approach to within approximately 1 meter. After observing for 5 minutes, they moved away; however, the snake was no longer visible upon return several minutes later. The location was open barrier beach devoid of vegetation and an estimated 6 meters from the waterline. The length of the snake could not be determined but appeared to be a juvenile or sub-adult based on photographs. The estimated landward distance to vegetated dunes was 15 meters. Weather conditions consisted of clear skies and air temperature of 23° C. Eastern cottonmouths are commonly observed at the Refuge though more typically in other habitat

types such as cited above. Cottonmouths have not been documented in barrier beach habitat at the Refuge previously. The hole from which the snake was observed may have been a ghost crab (*Ocypode quadrata*) burrow. The Eastern cottonmouth is known to use ambush or sit-and-wait strategies to capture prey (E.A. Eskew, A., J. D. Willson and C. T. Winne. 2009. Ambush site selection and ontogenetic shifts in foraging strategy in a semi-aquatic pit viper, the Eastern cottonmouth. Journal of Zoology, 277: 179-186). The authors speculate the snake may have entered the beach area to prey on ghost crabs or possibly small shorebirds using the burrow as an ambush site. Few other prey species are expected to occur in barrier beach habitat and the authors are not aware of documented accounts of ghost crabs as prey though Mitchell (1994) reports invertebrates among the cottonmouth's diet. Specifically reported invertebrate prey includes coleopterans, dipterans, blattidids and gastropods (Vincent, S.E., A. Herrel and D.J. Irschick. 2004. Sexual dimorphism in head shape and diet in the cottonmouth snake (*Agkistrodon piscivorus*). Journal of Zoology, London, 264: 53–59). Other vertebrate prey such as small mammals, amphibians and fish (Linzey, D. W. and M.J. Clifford. 1981. Snakes of Virginia. University Press of Virginia: Charlottesville and London, 173 pp.) would not be expected in this habitat. Other speculations exist for this observation. Freshwater impoundments exist approximately 0. 5 km west of where the snake was observed, possibly indicating dispersal of juveniles. Additionally, the authors speculate that the burrow may have served for thermoregulation. Digital photographs were submitted to the VHS archives (#169).

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***Lithobates sphenocephalus* (Southern Leopard Frog)**. VA: Richmond Co., Rappahannock River Valley National Wildlife Refuge. 15 October 2005. Timothy P. Christensen.

Corroborating observation: On 15 October 2005, 3 egg masses were observed in an artificially impounded emergent wetland informally referred to as "Frogholler" at the Rappahannock River Valley National Wildlife Refuge. At that time, no standing water existed at the locations of the egg masses though the soil was still moist. Some individual eggs were still attached approximately 12 cm above the ground. This observation further corroborates observations by Gibson and Sattler (2010. Field Notes: *Lithobates sphenocephalus*. Catesbeiana 30: 30-31) who reported 61 egg masses in a small vernal pond on 3 October 2009 in Pittsylvania County indicating the first possible published account of this species depositing eggs communally in the fall in Virginia. The "Frogholler" site was first visited on 24-25 September 2005, and no standing water existed at that time. The level of standing water at this location is uncertain between 25 September and 15 October. Weather conditions on 15 October 2005 comprised clear skies with ambient temperatures reaching low to mid 70s at the time of the observation. Other anurans observed at this location included Eastern cricket frog (*Acris crepitans crepaitans*) and green frog (*Lithobates clamitans*). Documentation of extralimital breeding behavior may provide valuable information for tracking species' responses to climate change. A photo of an egg mass was deposited in the VHS Digital Archive (#167) as a voucher of this observation.

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***Trachemys scripta scripta* (Yellow-bellied Slider)**. VA: Hanover County. Richmond National Battlefield Park (Turkey Hill). Route 156 (Grapevine Bridge) [37°33'9.22"N 77°16'15.84"W]. 26 June 2009. John D. Kleopfer and Ryan Niccoli.

The Yellow-bellied Slider reaches the northernmost extent of its range in southeastern Virginia (Mitchell, J.C. 1994. The Reptiles of Virgina. Smithsonian Institution Press, Washington, DC. 352 pp.). In Virginia, the northernmost documented occurrence of this species is New Kent County in the Chickahominy River watershed (Field Notes: *Trachemys scripta scripta.* Catesbeiana 74, 26(2); Kleopfer, J.D. 2006)

Using a baited (canned sardines) 1.82m (6ft) hoop-net, an adult male Yellow-bellied Slider was captured on 26 June 2009 in Hanover County (Chickahominy River) at a location known as Turkey Hill. The Turkey Hill site is a recent 97 ha (240 ac) land-acquisition by the Richmond National Battlefield Park. This is the second documented observation of this species in the Chickahominy River watershed (Kleopfer, op. cit.). This observation represents a new county record and a northwestern range extension of approximately 28 km. Since only one Yellow-bellied Slider was captured during this 5-day survey, which resulted in the capture of numerous individuals of other sympatric species of turtle (i.e. eastern snapping turtle, eastern painted turtle and stinkpot), this record may finally define the northernmost extent of this species range (Kleopfer pers. comm. 2009). However, the distribution of this species north of the James River appears to be intermittent in contrast to its more continuous distribution south of the James River (Mitchell, op. cit.). Additional surveys upstream of the Turkey Hill site would confirm the author's personal comment. It should be noted that no nonnative Red-eared Sliders (*T. s. elegans*) were captured during this survey. A digital photograph was submitted to the VHS archives (#130).

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***Lithobates sylvatica* (Wood Frog)**. VA: Powhatan Co. Powhatan State Park (37° 40' 45.82" N, 77° 55' 47.07" W). 11 March 2010. Michelle Whitehurst and Anne Wright.

County Record: As part of a collaborative project between the VA Department of Conservation and Recreation, Powhatan County Public Schools, and Virginia Commonwealth University, students from Powhatan High School Ecology classes visited Powhatan State Park on the Historic James River, a new state park in Powhatan County, throughout the 2009-2010 school year to collect baseline biological and ecological data for the park. The park is not yet open to the public, and the data gathered adds valuable information to the park database.

On 11 March 2010 at 1200h, high school Ecology students noted a chorus of calling frogs at the edge of a hardwood forest parcel within the interior of the park. The parcel is almost completely surrounded by agricultural fields and supports a large vernal pool complex within its boundary. Approximately 98m southeast of the park's main dirt road in a portion of the pool just inside the forest edge, several wood frogs, *Lithobates sylvatica*, were discovered in a state of amplexus in approximately 30 cm of water. Four male frogs were congregated around a single female frog, and four large Wood Frog egg masses were observed nearby. This sighting represents the easternmost record south of the James River for Wood frogs in VA, and is a new county record for Powhatan. A digital image of an egg mass and an amplexed pair of frogs was submitted to the VHS Digital Archive (#162) as a voucher.

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***Farancia abacura abacura* (Eastern Mudsnake)**. VA: New Kent Co., Rt. 155 (Courthouse Rd.) (37°26'4.84"N; 77° 2'13.67"W). 28 May 2010. J.D. Kleopfer

County Record: On 28 May 2010, Chuck Starkey found an Eastern Mudsnake dead on Rt. 155 just north of where the road crosses the Chickahominy River in New Kent County. This observation is a new record for New Kent County and only the second record for this species north of the James River (Mitchell, J.C. 1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington DC. 352 pp.; Mitchell and Reay. 1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication No. 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122 pp.; Kleopfer, J.D and S.H. Watson. 2009. Field Notes: *Farancia abacura abacura*. Catesbeiana 29(2):94). This record also constitutes a minimal northern range extension of 0.75 kilometers. A digital image was deposited in the VHS archives (#161).

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***Psuedemys rubriventris* (Northern Red-bellied Cooter)**, VA; Prince William County, 10023 Ellis Road; 24 April, 2010; Kathy M. Clark and Ann Baker.

County Record: On 24 April 2010 a turtle was spotted moving across a yard in a rural section of Prince William County in the late afternoon. It had recently rained. Across the street there is a field with a pond (approximately 0.4 km away). The turtle was moving towards some woods. Beyond the woods are a few houses and an area which has several interconnected small ponds and marshy areas leading to a larger pond. This area is also approximately 0.4 km from the sighting. The turtle was approximately 0.3 m long and 19 cm across at the widest

point. We were able to take photos with a phone camera. One of these photos was submitted and deposited in the VHS Digital Archive (#166) as a voucher. We have since explored the area with the small ponds and seen smaller turtles but were not able to clearly identify them.

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Hyla cinerea **(Green Treefrog)** VA: Goochland Co., Rt. 250 (West Broad St.) at the Tuckahoe Creek Bridge (37 39.994 N; 40.008W) 20 June 2010. Brian Munford.

County Record: On 20 June 2010 a chorus of green treefrogs was recorded at Rt. 250 at the Tuckahoe Creek Bridge in Goochland County. This observation is a new county record and expands the western range of this species (Mitchell J.C. and K.K. Reay, 1999. Atlas of Amphibians and Reptiles in Virginia, Special Publications No. 1, Virginia Department of Game and Inland Fisheries, Richmond, VA, 122pp; Tobey, F.J. 1985. Virginia's Amphibians and Reptiles: A Distributional Survey, Virginia Herpetological Survey, Purcellville, VA. 114pp.). A digital recording of this chorus has been deposited in the VHS Digital Archive (#164).

Brian Munford
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***Lithobates palustris* (Pickerel Frog)** VA: Surry Co., At a wetland along SR 608, 1.5 km. East of Rt. 607 (37° 02' 28"N, 77° 42' 15"W) 22 March 2010. Brian Munford.

County Record: On 22 March 2010, pickerel frogs in small numbers were recorded as part of a survey for the North American Amphibian Monitoring Project. This observation is a new record for Surry County and fills a hiatus in the distribution of this species in Virginia (Mitchell J.C. and K.K. Reay, 1999. Atlas of Amphibians and Reptiles in Virginia, Special Publications No. 1, Virginia Department of Game and Inland Fisheries, Richmond, VA, 122pp; Tobey, F.J. 1985. Virginia's Amphibians and Reptiles: A Distributional Survey, Virginia Herpetological Survey, Purcellville, VA. 114pp.). A digital recording has been deposited in the VHS Digital Archive (#163).

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***Hyla femoralis* (Pine Woods treefrog)** VA: Chesterfield Co., Pond just Southwest of State Route 655 (Beach Rd.) at State Route 636 (Nash Rd.) 07 May 2009. Brian Munford

County record confirmation: On 07 May 2009, a chorus of pine woods treefrog was recorded in Chesterfield County. This observation is confirmation of the western range of this species. (Mitchell J.C. and K.K. Reay, 1999, Atlas of Amphibians and Reptiles in Virginia, Special Publications No. 1, Virginia Department of Game and Inland Fisheries, Richmond, VA, 122pp; Tobey, 1985, Virginia's Amphibians and Reptiles: A Distributional Survey). A digital recording has been deposited in the VHS archive (Digital Voucher # 165).

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***Hemidactylium scutatum* (Four-toed Salamander)**. VA: Franklin Co., Chestnut Mountain (36°53'30.90"N, 79°45'21.00"W). 18 September 2010. Jason Gibson.

County Record: On 18 September 2010 we were conducting a survey for Timber Rattlesnakes on Chestnut Mountain in Franklin County, Virginia. For the second year our hunt for *Crotalus horridus* was unsuccessful, but we were able to collect 15 species of reptiles and amphibians (4 anurans, 6 salamanders, 2 lizards, 1 turtle, and 2 snakes) in approximately four hours of survey effort. One species we found, *Hemidactylium scutatum,* is a new record for Franklin County. This species has not been reported in Franklin County in Mitchell and Reay (1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA, 122 pp.), Tobey (1985. Virginia's Amphibians and Reptiles: A Distributional Survey. Virginia Herpetological Society, Purcellville, VA. 114 pp.) and the Virginia Department of Game and Inland Fisheries wildlife database. The animal was a juvenile and was found under a log adjacent to a small boggy wetlands area. A digital image was deposited in the VHS archives (Digital voucher # 171).

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***Heterodon platirhinos* (Eastern Hognose Snake)** VA: Fluvanna County, 316 Taylor Ridge Way, Palmyra, 3 September 2010. D. Perry.

County Record: A juvenile eastern hognose snake was found at 0945 h crawling on the lawn/woods edge of mixed soft and hardwood trees on the western side of our property at 316 Taylor Ridge Way. Skies were partly cloudy and the morning temperature was 26.7C (80F). The hognose snake measured 21.5 cm (8.5 inches).

The juvenile hognose was observed for approximately 48 hours and was released at the same spot in the morning on 05 September 2010. According to Mitchell and Reay (1999, Atlas of Amphibians and Reptiles in Virginia, Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA pp 90.) *Heterodon platirhinos* has not been previously recorded in Fluvanna County although it has been found in neighboring counties. Digital pictures of the specimen were submitted to the VHS archives (#172)

David A. Perry
316 Taylor Ridge Way
Palmyra, VA 22963

Thamnophis sauritus sauritus **(Eastern Ribbonsnake)**. VA: Prince George County/Hopewell. 3718 River Road (State Route 645). N: 37°17'43.6" W: 77°19'28.5". 3 October, 2009. Jonathan D. Jeffreys, Sandra K. Jeffreys.

Prince George County/Hopewell Record: On 3 October, 2009 at approximately 13:33h and while conducting a road mortality survey, a single Eastern Ribbonsnake was noted DOR on River Road in the proximity of Mathis Park in Hopewell. No morphometric data was obtained as this male specimen had been dead for at least several hours. The Eastern Ribbonsnake had been seen near this location on several prior occasions. However, the species had yet to be recorded for Prince George County. Therefore, this specimen represents the first documented record for this species in Prince George County/Hopewell (Mitchell, J.C. and K.K. Reay. 1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, Virginia. 98 pp.). Several digital photographs have bee deposited in the VHS archives (#170).

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President's Corner

This past year of surveys has been a lot of fun mostly because we were able to go to places the VHS has not surveyed in a long while or ever, including: Northern Virginia, the Eastern shore, and a newly created state park that has not opened to the public yet. We hope to continue this trend of going to new places in the near future, but also making an attempt to resurvey a location the VHS has done previously. This will hopefully provide some balance to our survey locations and provide meaningful data. It may be hard to believe, but we are already looking to activities and surveys for 2011! We have already received two invitations for surveys at specific locations, and we have the potential for doing surveys that are not typical for the VHS, such as a frog call dedicated survey, and one for surveying eastern diamondback terrapins.

For our 2010 Fall Meeting we are taking a minor detour from our usual meeting location in Richmond by having our meeting at the Virginia Zoo in Norfolk. Now members can bring their family who would not usually attend the meeting, and have them visit the Zoo during the meeting. We are also being provided with a space that is contemporary, inviting and almost luxurious. We are excited about our keynote speaker Dr. Robert Weems, who will present on the paleontology of Virginia's Herps. The VHS doesn't often dabble in paleontology, so Dr. Weems's presentation will be a refreshing departure. We will continue the student awards for the best first and second place oral and poster presentations.

Since obtaining our nonprofit status earlier this year, learning the requirements needed to maintain our status has been challenging. So we are sending our treasurer, Emily Steele, to an IRS workshop in October with the hopes of gaining some clarity and having some of our questions answered. Anyone experienced with the bookkeeping of a 501(c)(3) organization and is willing to offer help from time to time is encouraged to contact Emily at ixzamnu@gmail.com.

I wanted to remind all of our members that the VHS provides grants of up to $500 to support herpetological research in Virginia. This is not only open to college students, but also to post-docs and high school

teachers. By the end of the year, we will have a revised webpage on the grants, including more details.

The Virginia Department of Game and Inland Fisheries is also providing a $500 matching grant for research conducted on species listed in the Wildlife Action Plan. There is a long list of reptiles and amphibians this applies to at http://www.bewildvirginia.org/species/. A successful recipient would be eligible for up to $1,000 between the VHS and VDGIF!

I am looking forward to the Fall Meeting and seeing many of the VHS members in person. The 2011 season should also be exciting, so check our website and the January newsletter for updates on surveys and membership benefits.

Minutes of the Spring VHS Meeting
Mason Neck State Park
21 May 2010

President Kory Steele started the meeting with introductions, then Scott read aloud from the Activities Log (old business). We then jumped into committe reports.

Susan started by requesting submissions for the newsletter, which comes out sometime in July.

Paul gave the Catesbeiana update during the new business portion of the meeting. 185 copies were printed, and 170 issues were mailed out at a cost of $171. The group discussed the possibility of changing to an electronic format, such as PDF. Kory expressed concern that without hard copies on shelves, people would just skim through the PDFs and never revisit them for deeper reading. It was agreed that giving people the option for an electronic format in addition to the hard copy was a good idea. It was mentioned that Joy Ware has Powhatan survey data yet to submit, but we did not know whether she was aware she has to submit it.

Emily gave the Treasury report. The VHS currently has 175 members. Twenty-five of those are lifetime members. The VHS has $5,609 in the bank. The largest expense was in March for a $500 grant. The second-largest expense was for Catesbeiana. It was announced that as of April 20th, the VHS began accepting payments via PayPal. In fact, we added five new members and one renewal who payed via PayPal. The PayPal announcement is going to be placed prominently at the top of the newsletter. Additionally, an expense report has been put on Google Documents.

Pattie gave a web store update. The web store has been renewed for this year, at a cost of $50 per year. It has been a while since we've received a paycheck from Cafe Press. Paychecks go out in increments of $200. Currently the VHS is at approximately $125. Sales have been

low because we need more material for the web store. The calendar is

our best seller, but we didn't get a calendar out there this year. People were asked send pictures to Pattie for the next Calendar. A request was also made for herp-related artwork submissions, possibly via a contest, to sell on the web store.

Kory gave the Education Committee report on behalf of Mike Clifford. Mike is doing a lot of herp presentations. He has been receiving 2-3 emails per week from people to identify various herps. One example was given about a woman who reached out to him asking about a tick preventative for her yard and wanted to know if it would hurt the amphibians. VHS is keeping track of these communications, and we need to make sure we cc Mike when we get those identification requests. Leeana Pletcher presented to the Virginia Master Naturalist Pocahantas chapter in March.

Kory gave the Research Committee report on behalf of Joy Ware. Joy leads a group called Snake Force One which studies health and disease status of (mostly) snakes in various national wildlife refuges, such as Pesquille Island, James River, and Rappahannock. Joy found an abundance of internal parasites in the blood of one snake. There are many more surveys coming.

Kory gave the Conservation Committee report on behalf of Tim Christianson, who is in Ecuador. Tim is working on a herps presentation for a workshop for Virginia's master naturalists to use to train people about herps. He also has an opportunity to teach a herps course for the Christopher Wren Association (associated with the College of William and Mary). We discussed promoting the Federal Duck Stamp program, since that program's profits go to national wildlife refuges. Tim has also been looking into the idea of a herp stamp to raise funds for herp preservation. Per Tim, we need to wait until we're a non-profit, then revisit this idea. Finally, we discussed an idea for a promotional poster to illustrate the threats to herps, possibly to be sold through the web store.

Kory gave Jason's Herp Blitz report. Jason is organizing a blitz at Chincoteague State Park on the Eastern Shore on June 12th-13th. Jason requested that people pre-register for this survey.

John White gave a brief web site report. The site generates lots of traffic. Kory has a goal for redesign the contact us page and the front page, specifically to clarify what we're all about. We don't want to scare people off by giving the impression that active participation is mandatory for membership. Look for a redesign coming up soon.

That concluded the committee reports. We then moved on to new business.

We talked about recently obtaining non-profit status. The VHS now has the ability to get tax exemptions for purchases. It's nice to give the tax number to the Cafe press (web store) so we don't have to use Pattie's social security number anymore.

John took it on himself to get us business cards. People present at the meeting were encouraged to take five to ten with them.

Kory submitted field notes about a Mediterranean Gecko he found in Newport News. This represents a range extension for the species. Kory learned that there is a policy against field notes for non-native species. Kory said he would talk more about this later in the meeting.

Reptile Day is coming up in Virginia Museum of Natural History in Martinsville on July 24th. Kory asked for volunteers to help Jason out at the event.

The location of next year's surveys was discussed. Kory is talking with Don Schwab of the Fish and Wildlife Service. Don works in Dismal Swamp and is a former state herpetologist. They are trying to organize a possible survey there. Kory mentioned the idea of maybe revisiting

some of the same places every one or two years, and the Dismal

Swamp would make a great location for that. Also, Tim has been talking to a guy who would like us to do a sea turtle survey.

We discussed locations for the Fall meeting. We were looking into the Science Museum of Virginia in Richmond, but so far it's not for free. We need a place that's either free or that charges only a modest fee. For a keynote speaker, Larry has reached out to a paleontologist. Kory's going to solidify these plans so we can get on the paleontologist's calendar.

Susan gave a DGIF-related update. The VHS is going to the AAG (Agency Advisory Group) meeting. DGIF has asked constituent groups to attend the meeting. Various hunting groups and conservation groups attend to weigh in on issues, therefore so should we. It's an opportunity for ideas for funding for DGIF. Next up at the AAG is strategic planning for the agency.

Kory then kicked off a discussion about whether to keep notes on invasive species. Should we include them in Catesbeiana? Kory argued that any herpetology going on in Virginia is worthwhile to capture. Maybe we should add a separate section for them in Catesbeiana. Paul recommended we add a header category for them. Paul said we need criteria to distinguish between those invasive species that can survive in the wild in Virginia, versus those that cannot.

Kory suggested that we set up a Google group to encompass the VHS and other U.S. herpetological societies.

The meeting was adjourned at park official David Stapleton began discussing park rules and guidelines.

Submitted by Scott Duncan

Treasurer's Report

Balance on hand 04/01/2010	$5,633.17
Receipts	
New memberships, April - September	$331.00
Membership renewals, April - September	$160.00
VDGIF "Virginia Wildlife Action Plan" grant contribution	$500.00
Snakes of Metropolitan Washington poster	$ 23.00
Total receipts:	$1,014.00
Disbursements	
VDGIF Scientific Collection Permit	$ 40.00
Business cards	$101.45
Picnic shelter for spring meeting	$115.50
Organizational materials	$ 50.83
Catesbeiana 30(1) printing and postage	$318.94
New website domain name, 3year subscription	$134.99
La MICA Biological Station donation	$200.00
IRS Workshop registration	$ 35.00
Total disbursements:	$996.71
Balance on hand 9/30/2010	**$5,650.46**

Submitted by Emily Steele

2010 VHS Annual Fall Symposium

The 2010 Annual VHS Fall Meeting will feature paper/poster sessions for students (with monetary prizes awarded), special presentations, silent & live auctions of herp-related items, and the VHS business meeting. Our keynote speaker will be Dr. Rober Weems, of the US Geological Survey, who is a renowned expert in Virginia's herpetological fossils. Dr. Weems will talk about the history of Cenozoic Era Coastal Plain reptiles, the changes in climate over that time span, and the onset of the ice ages and how it influenced Virginia's herpetofauna.
This location provides family members not attending the meeting an activity that is educational and will keep them occupied all day. Numerous herps are on exhibit at the Zoo. A behind-the-scenes tour will also be provided to attendees by Craig Pelke, Curator of Birds & Ectotherms.

Keynote Speaker: Dr. Robert Weems
Location: Virginia Zoo, 3500 Granby Street, Norfolk, VA 23504
Date: Saturday, October 16, 2010
Time: 9am to 5pm (Note: the Zoo is open for non-meeting visitors 10am-5pm)
Parking: Parking is free and abundant
Admission: Free to members attending the VHS meeting. All others: $8 for adults, $6 for children 2-11yrs
Cost: Free
Lunch: Food is available on site with a full service menu. Box lunches are $8-10 and vegetarian is available
Questions: For more information, contact President Kory Steele, colchicine@gmail.com

Field Notes

The field notes section of Catesbeiana provides a means for publishing natural history information on Virginia's amphibians and reptiles that does not lend itself to full-length articles. Observations on geographic distribution, ecology, reproduction, phenology, behavior, and other topics are welcomed. Field Notes will usually concern a single species. The format of the reports is: scientific name (followed by common name in parentheses), state abbreviation (VA), county and location, date(s) of observation, observer(s), data and observations. The name(s) and address(es) of the author(s) should appear one line below the report. Consult the editor if your information does not readily fit this format. All field notes must include a brief statement explaining the significance of the record (e.g., new county record) or observation (e.g., unusual or rarely observed behavior, extremely early or late seasonal record, abnormal coloration, etc.). Submissions that fail to include this information are subject to rejection. Relevant literature should be cited in the body of the text (see Field Notes in this issue for proper format). All submissions will be reviewed by the editor (and one other person if deemed necessary) and revised as needed pending consultation with the author(s).

If the field note contains information on a new county (or state) record, verification is required in the form of a voucher specimen deposited in a permanent museum (e.g., Virginia Museum of Natural History) or a photograph (print, slide, or digital image) or recording (cassette tape or digital recording of anuran calls) deposited in the archives of the Virginia Herpetological Society. Photographs and recordings should be sent to the editor for verification and archiving purposes; the identity of voucher specimens must be confirmed by a museum curator or other qualified person. Include the specimen number if it has been catalogued. Prospective authors of distribution reports should consult Mitchell and Reay (1999. Atlas of Amphibians and Reptiles in Virginia), Mitchell (1994. The Reptiles of Virginia), and Tobey (1985. Virginia's Amphibians and Reptiles: A Distributional Survey) [both atlases are available on-line on the VHS website] as well as other recent literature to determine if they may have a new county record. New distribution records from large cities that formerly constituted counties (Chesapeake, Hampton, Newport News, Suffolk, and Virginia Beach) are acceptable, but records from smaller cities located within the boundaries of an adjoining county will only be published if the species has not been recorded from that county. Species identification for observational records (e.g., behavior) should be verified by a second person whenever possible.

PHOTOGRAPHS

High contrast photographs (prints, slides, or digital images) of amphibians and reptiles will be considered for publication if they are of good quality and are relevant to an accompanying article or field note. Digital images are preferred. Published photographs will be deposited in the VHS archives.

Paul Sattler
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